Amendments to the Claim

The following listing of claims shall replace all previous listings of claims filed in this application.

Claims Listing

1. (Currently Amended) A receiver for a packet transmission system of the TDMA type comprising at least a terminal (2) suitable for transmitting, to the receiver (1), a packet of symbols, referred to as transmitted packet, in a time interval allocated in accordance with a predetermined allocation plan, said transmitted packet comprising a useful part and a known header, the receiver comprising:

- a means (13) for receiving a packet of symbols, referred to as received symbols, corresponding to the allocated time interval,

- oversampling means (18) for generating oversamples (S_0 to S_{M-1}) from a received symbol, and

- means for recovering said transmitted packet (22) for retrieving the position of the transmitted packet in the allocated time interval, comprising:

  - shifting means (SELECT) for selecting a variable computing window in the allocated time interval,

  - means for searching the optimal sampling instant (CAL) for determining, on the basis of the generated oversamples in the current computing window with the known header of the transmitted packet, and

  - means (CAL) for successively correlating the optimal oversamples in the current computing window with the known header of the transmitted packet, and

  - decision means (CAL) for detecting the presence and position of the transmitted packet in one of the computing windows as a function of the result of the successive correlations.

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2. (Original) A receiver as claimed in claim 1, wherein the computing window comprises a plurality of symbols which is higher than the size of the transmitted packet, the difference in number of symbols being provided for mitigating an ambiguity related to the correlation results.

3. (Original) A receiver as claimed in claim 2, wherein the optimum sampling instant is searched on the basis of received symbols situated at the end of the current window, except for the last symbols corresponding in number to said difference.

4. (Original) A receiver as claimed in claim 1, wherein the successive correlations increment by at most one symbol between each correlation.

5. (Currently Amended) A packet transmission system of the TDMA type comprising at least a transmitter (2) and a receiver (1), the transmitter being suitable for transmitting to the receiver a packet of symbols referred to as transmitted packet comprising a useful part and a known header in time intervals allocated in accordance with a predetermined allocation plan, the receiver comprising:

- means (13) for receiving a packet of symbols, referred to as receiving symbols, corresponding to the allocated time interval,
- oversampling means (18) for generating oversamples (S_0 to S_{M-1}) from a received symbol, and
- means for recovering said transmitted packet (22) for retrieving the position of the transmitted packet in the allocated time interval, comprising:
  - shifting means (SELECT) for selecting a variable computing window in the allocated time interval,

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- means for searching the optimal sampling instant (CAL) for determining, on the basis of the generated oversamples, the optimal oversamples corresponding to the received symbols comprised in the current computing window,

- means (CAL) for successively correlating the optimal oversamples in the current computing window with the known header of the transmitted packet, and

- decision means (CAL) for detecting the presence and position of the transmitted packet in one of the computing windows as a function of the result of the successive correlations.

6. (Currently Amended) A receiving method for determining the position of a packet of symbols, referred to as transmitted packet, the system comprising useful data and a known header transmitted by a terminal of a packet transmission system of the TDMA type within a time interval allocated in accordance with a predetermined allocation plan, the method comprising the steps of:

- receiving (40) a packet, referred to as received packet, corresponding to the allocated time interval and comprising symbols, referred to as received symbols, among which is the transmitted packet,

- oversampling (42) for generating oversamples from said received symbols,

- shifting for selecting a variable computing window in the received packet,

- searching the optimal sampling instant (46) for selecting, on the basis of the generated oversamples, the optimal oversamples corresponding to the received symbols comprised in the current window, and

- successive correlations (47) in the current window between the selected oversamples and the known header of the transmitted packet, and

- decision (48) for detecting the presence of the transmitted packet in a computing window and for deriving its position within the allocated time interval.

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7. (Original) A method as claimed in claim 6, wherein the decision step effects a detection of the threshold for each correlation result so as to derive the presence and position of the transmitted packet.

8. (Original) A method as claimed in claim 6, wherein the decision step effects a maximum computation between all the results of the successive correlations sp as to derive the presence and position of the transmitted packet.

9. (Original) A computer program for a receiver, the computer program comprising instructions which, once loaded into the receiver, enable it to perform the method as claimed in claim 6.

10. (Currently Amended) A signal for transporting a computer program, the program comprising instructions for performing the method as claimed in claim 6, wherein said signal is embodied in a processor readable memory.

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